

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U.S. Appl. No. 09/116,589**

**REMARKS**

Claims 28, 29 and 63 are all the claims pending in the application prior to amendment.

Claim 63 is cancelled by this Amendment without prejudice or disclaimer.

Claim 29 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant submits that claim 28 complies with the requirements of 35 U.S.C. § 112, second paragraph.

Claim 28 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kawazoe et al (USP 5,781,317). Claim 29 stands rejected under 35 U.S.C. § 103 as being unpatentable over Molteni (USP 5,473,447). Claim 63 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kawazoe et al and further in view of Kawayama et al (USP 4,720,158). Claim 63 is cancelled by this Amendment. The rejections of claims 28 and 29 are respectfully traversed.

Claims 28 and 29 specify that the relief hologram comprises a computer generated hologram. This aspect to the invention is described, for example, at pages 54-56 of the specification. According to this aspect of the invention, a CGH achievable in the form of a relief hologram alone and capable of reconstructing an aerial object is replicated in a volume hologram, so that by the wavelength selectivity of the volume hologram, the CGH can be reconstructed at the design wavelength even under white light. This feature is not taught or suggested by any of the references.

With regard to claim 28, Kawazoe et al does not teach or suggest this feature. This deficiency of Kawazoe et al is implicitly admitted by the Examiner in the rejection of cancelled claim 63. Claim 63 depends from claim 28 and adds the feature that the relief hologram is a computer generated hologram. In rejecting this claim based on a combination of Kawazoe et al

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and Kawamaya, the Examiner did not cite Kawazoe et al as showing this feature, but introduced Kawamaya solely for the purpose of disclosing this feature. However, Kawamaya shows that another hologram is fabricated by interference of diffraction light beams from CGHs 42 and 43. However, this reference does not show that a CGH is replicated in the form of a volume hologram, as required by claim 28.

With respect to claim 29, claim 29 recites that the reflection type hologram is a CGH. Molteni does not teach or suggest this feature.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**Please cancel claim 63 without prejudice or disclaimer.**

**The claims are amended as follows:**

28. (Twice Amended) A method of fabricating a hologram-recorded medium which is an imagewise or other pattern-recorded medium comprising a collection of pixels, and in which any one of a plurality of volume type diffraction gratings comprising volume holograms and differing from each other is assigned to at least a part of said pixels, the method comprising:

stacking a photosensitive material, capable of recording a volume hologram, on a reflection type relief hologram, and

striking reconstructing illumination light of given wavelength on said reflection-type relief hologram through said photosensitive material, so that interference fringes produced by interference of light diffracted from said reflection type relief hologram and the incident light are recorded in said photosensitive material[, and

filtering higher order diffracted light from reflecting back to said photosensitive material], wherein said reflection type relief hologram comprises a computer generated hologram (CGH).

29. (Three Times Amended) A method of fabricating a hologram-recorded medium which is an imagewise or other pattern-recorded medium comprising a collection of pixels, and in which any one of a plurality of volume type diffraction gratings comprising volume holograms and differing from each other is assigned to at least a part of said pixels, the method comprising:

stacking a photosensitive material, capable of recording a volume hologram, on a first transmission type hologram[ having a first pattern of interference fringes],

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striking reconstructing illumination light of given wavelength on a side of said first transmission type hologram that is not [opposite to] directly across from said photosensitive material, so that [first] interference fringes produced by interference of light diffracted from said [first] transmission type hologram and reference light incident on said photosensitive material are recorded in said photosensitive material[, and

replacing said first transmission type hologram with a second transmission type hologram having a second pattern of interference fringes and striking the reconstructing light on a side of said second transmission type hologram that is not opposite to said photosensitive material, so that second interference fringes produced by interference of light diffracted from said second transmission type hologram and the reference light incident on said photosensitive material are recorded in said photosensitive material] , wherein said transmission type hologram comprises a computer generated hologram (CGH).